



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

seconds *in vacuo*, at the level of the sea, measured at the temperature of  $62^{\circ}$  Fahr., and the latitude of the place of observation, deduced from the data contained in the trigonometrical survey, being  $51^{\circ} 31' 8''\cdot4$  N., is,

	Inches.
By Sir George Shuckburgh's Standard.....	39·13860
By General Roy's Scale.....	39·13717
By Bird's Parliamentary Standard.....	39·13843

*On the Length of the French Mètre estimated in parts of the English Standard.* By Capt. Henry Kater, F.R.S. Read February 5, 1818. [*Phil. Trans.* 1818, p. 103.]

One of the objects of the Committee of the Royal Society appointed for the purpose of determining the length of the seconds' pendulum having been to compare the French Mètre with the British Standard Measure, two metres were procured from Paris for that purpose; one called the *Mètre à Bouts*, being a bar of platinum, of which the terminating planes are supposed to be parallel, and the distance between them the length of the metre; the other termed the *Mètre à Traits*, consisting also of a bar of platinum, but upon which the length of the metre is shown by two very fine lines.

The latter was first examined, by placing it in contact with Sir George Shuckburgh's standard scale; their surfaces being in the same plane, and care being taken that their temperatures were alike. The same micrometer microscopes employed in the pendulum experiments were used, and were brought alternately over the metre and over the scale. It appeared from the mean result, properly corrected, of fourteen comparisons, the greatest difference between any one of which and the mean result is less than  $\frac{1}{100,000}$ ths of an inch, that the length of the *Mètre à Traits*, in inches of Sir George Shuckburgh's scale, is 39·37076 inches. The author next describes the means resorted to for ascertaining the length of the *Mètre à Bouts*; which appears, from the results of four sets of experiments, each set consisting of five, the greatest difference between any one of which and the mean result is  $\frac{1}{100,000}$ th of an inch, to be 39·37081 inches of Sir George Shuckburgh's standard.

After explaining the principles upon which the column in the tables intitled "Correction for Temperature" is constructed, Captain Kater remarks, that we may consider the mean derived from both metres, viz. 39·37079 inches of Sir George Shuckburgh's scale, or 39·37062 inches of Bird's parliamentary standard, as the length of the French metre.